



Dart Hawkesbury  
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada  
Tel (613) 632-5200

## Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Serial No	Status	Receive Date	Price/Unit	Aging Days	Past Due
P0038929	MEC002-VU	2	1	Net 30	M17-4-H1150-R4.000	17-4 SS H1150 Round Bar 4.000" : MATERIAL: 17-4 PH CONDITION H1150 receive ft				6	2/26/2018	6		S042021	Stock	2/13/2018	\$ 145.75 / ft	0	
		10			M7075T6S4.600X5.000	7075-T6S Sheet 4.500" Thick X 5.000" Wide : MATERIAL: 7075-T6/T62/T651 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft						9		S042022	Stock	2/13/2018	\$ 182.19 / ft	0	
Total:										12		15							

Plex 2/13/2018 3:19 PM Dart.Dubois.Pascal



Castle Metals®

A. M. Castle & Co.

PACKING SLIP/  
CERTIFICATE OF CONFORMANCE


Page 1 of 1

Shipment No: 3510196

<b>Ship From:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	<b>Ship To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
<b>Date Shipped</b> 12-FEB-18	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid	<b>Carrier</b> MANITOU LIN	<b>BOL No</b> 3510196-2

Shipment Details

Final Destination Branch - TOR

<b>Order No</b> 5033885	<b>Line No</b> 1	<b>Item No</b> 39902.MO	<b>Description</b> 4.0000.RD.17CR-4NI.STAINLESS.CF.H1150.132.0000-156.0000 CUT TO 72 IN ( + .1250/- .0000 IN) - BAND SAW CUTTING SPECIFICATIONS: AMS 5643 Email P/s and certs to: clavoie@dataero.com			
<b>Purchase Order No</b> 38929	<b>Part Number</b>	<b>Ordered Qty</b> 1.00 PCS	<b>Invoice Qty</b> 6.0000 FT			
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dataero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS						
<b>Delivery No.</b> 121600080	<b>Mill/Source</b> VALBRUNA CORPORATION	<b>Heat/Number</b>  2 6 7 9 0 0	<b>Mech Id</b> 1	<b>PCS</b>	<b>Width (IN)</b>	
					<b>Length (IN)</b>	
					<b>Shipped Qty(LBS)</b> 256.0164	

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. This report is on file subject to examination. All claims for defective material or material not to the correct size, or material not to the correct specification, must be made in writing to A. M. Castle & Co. within 60 days of the shipment. Material not to the correct size, or material not to the correct specification cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date: FEB 12 2018 Name:

Date Printed: 12-FEB-2018 03:12:19 PM



Castle Metals®

A. M. Castle & Co.

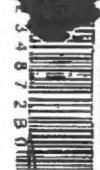
PACKING SLIP/  
CERTIFICATE OF CONFORMANCE

Page 1 of 1

Shipment No: 3510196

<b>Ship From:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		<b>Ship To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
<b>Date Shipped</b> 12-FEB-18	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid		<b>Carrier</b> MANITOU LIN		<b>BOL No</b> 3510196-2	

**Shipment Details** Final Destination Branch - TOR

<b>Order No</b> 5033858	<b>Line No</b> 1	<b>Item No</b> 12999.MO	<b>Description</b> 4.5000.PL.7075.T651.ALUMINUM. 48.5" X 5" CUT RECTANGLE TO 48.5 IN ( ) X 5 IN ( ) SPECIFICATIONS: AMS-QQ-A-250/12 Email P/s and certs to: clavoie@dartaero.com				
<b>Purchase Order No</b> 38929	<b>Part Number</b>		<b>Ordered Qty</b> 2.00 PCS	<b>Invoice Qty</b> 2.00 PCS			
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS							
<b>Delivery No.</b> 121624210	<b>Mill/Source</b>	<b>Heat Number</b>  348728011	<b>Mech Id</b> 2	<b>PCS</b>	<b>Width (IN)</b>	<b>Length (IN)</b>	<b>Shipped Qty(LBS)</b> 225.5235

We hereby certify the material covered by this certification conforms in accordance with the above specification and has been found to meet the applicable requirements for the material, including any special requirements. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co within 60 days of the shipment. Material out to the correct size, as indicated on the drawing. Customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date: FEB 11 2018



Date Printed: 12-FEB-2018 03:12:19 PM

24038623



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

## PURCHASE ORDER PO038929

**Supplier:** MEC002-VU  
Metaux Castle  
P.O. Box 4090 Str A  
Toronto  
ON  
M5W OE9 Canada

**PO No:** PO038929  
**PO Date:** 2/1/18  
**Due Date:** 2/26/18

**Purchase Order  
Revision:**

**Revision Date:**

**Ship-To Contact:** Phone:

**Via:** Ground

**Pynt Terms:** Net 30

**Freight Terms:**

**Special Comments:**

E-MAILED  
FEB 02 2018

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

### Items

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1	M7075T73B4.000x4.000		7075-T73 Bar 4.0 X 4.0 Grain Direction Along 4" Wide : MATERIAL: 7075-T73 OR 7075- T7351/T73510/T73511 BAR PER AMS-QQ-A- 200/11 OR AMS-QQ-A- 225/9 OR AMS 4124 OR AMS-QQ-A-250/12 OR AMS 4078 receive ft	Firmed	2/26/18	48 ft	0 ft	48 ft	\$107.58333/ft	\$5,164.00
Line Item Note 12 PCS CUT AT 4 FT LONG										
2	M17-4-H1150-R4.000		17-4 SS H1150 Round Bar 4.000" : MATERIAL: 17-4 PH CONDITION H1150 receive ft	Firmed	2/26/18	6 ft	0 ft	6 ft	\$145.75/ft	\$874.50
3	M7075T6S1.000X5.000		7075-T6 Sheet 1" Thick Plate X 5" Wide : MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	2/26/18	12 ft	0 ft	12 ft	\$21.75/ft	\$261.00
4	M7075T6S1.250X2.750		M7075T6S1.250" X2.750" Cut From Plate : MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	2/26/18	12 ft	0 ft	12 ft	\$34.30/ft	\$411.60

## Items

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
5	M7075T6S6.000X0.250		7075-T6S Sheet 6" Thick Plate X 0.25" Wide : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	2/26/18	36 ft	0 ft	36 ft	\$20.75/ft	\$747.00
6	M7075T6S7.000X2.000		7075-T6S Sheet 7" Thick Plate X 2" Wide : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	2/26/18	48 ft	0 ft	48 ft	\$78.52/ft	\$3,768.96
7	M7075T6S0.375X6.000		7075-T6S Sheet .375" Thick Plate X 6" Wide : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	2/26/18	12 ft	0 ft	12 ft	\$25.68/ft	\$308.16
8	M7075T6B1.000X00.250		7075-T6 Bar 1.000' X 0.250" : MATERIAL: 7075-T6 OR T651/T6510/T6511/T62 ALUMINUM BAR AS PER AMS-QQ-A-225/9 OR AMS 4122/4123/4186/4187 OR PER AMS-QQ-A-200/11 receive ft	Firmed	2/26/18	12 ft	0 ft	12 ft	\$9.92/ft	\$119.04
9	M7075T6S2.000X0.750		7075-T6S Sheet 2" Thick Plate X 0.75" Wide : MAT'L 7075-T6/T62 ALUMINUM SHEET SPECS QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR PER ASTM B209  MAT'L 7075-T6/T62 ALCLAD ALUMINUM SHEET SPECS QQ-A-250/13 OR AMS-QQ-A-250/13 OR AMS 4049 OR PER ASTM B209 receive ft	Firmed	2/26/18	12 ft	0 ft	12 ft	\$18.47/ft	\$221.64

Items										
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
10	M7075T6S4.500X5.000		7075-T6S Sheet 4.500" Thick X 5.000" Wide : MATERIAL: 7075-T6/T62/T651 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	2/26/18	6.125 ft	0 ft <i>9 ft 48.5 inch x 2</i>	6 ft	\$182.19/ft	\$1,115.91
11	M7075T6S1.000X2.500		7075-T6S Sheet 1" Thick Plate X 2.5" Wide : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	2/26/18	12 ft	0 ft	12 ft	\$30.42/ft	\$365.04
12	M7075T6S1.250X2.000		7075-T6 Sheet 1.250" X 2.000" : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	2/26/18	12 ft	0 ft	12 ft	\$20.12/ft	\$241.44
13	M7075T6S0.375X5.000		M7075T6S0.375 X 5.000 : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	2/26/18	12 ft	0 ft	12 ft	\$18.10/ft	\$217.20
Grand Total:									\$13,815.49	

#### Order Notes

##### Procurement Quality Clauses

A005 right of entry  
A012 chemical and physical test report  
A016 personnel qualification  
A017 raw material identification (as applicable)  
A026 certification of material conformance  
A041 quality management system  
A042 dart notification by supplier  
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 2/1/18 10:20 AM dart.lacelle.linda

## Chantal Lavoie

**From:** Desbiens, Marc <mdesbien@amcastle.com>  
**Sent:** Monday, January 22, 2018 1:34 PM  
**To:** Chantal Lavoie  
**Subject:** RE: quote

Good Morning Chantal,

price an delivery on mat'l.

7075t73 bar 4" x 4" x 12 ft cut in section of 4 ft grain direction along 4" ✓

Offer plate \$ 1291.00 Lot 2-3 weeks

12 pcs. at 4 ft

17-4 h1150 round bar 4" x 6 ft

\$ 145.75 FT 8-9 days

Bar or sheet acceptable

7075t6 Sheet 1" x 5" x 12 ft \$ 21.75 Ft 2-3 weeks ✓

7075t6 sheet 1.250" x 2.750" x 12 ft \$ 34.30 Ft 2-3 weeks ✓

7075t6 sheet 6" x 0.250" x 36 ft \$ 20.75 Ft 2-3 weeks ✓

7075t6 sheet 7" x 2" x 48 ft \$ 78.52 Ft 2-3 weeks ✓

7075t6 sheet 0.375" x 6" x 12 ft \$ 25.68 Ft 2-3 weeks ✓

7075t6 sheet 1" x 0.250" x 12 ft (2 pcs 6ft) \$ 9.92 Ft 2-3 weeks ✓

7075t6 sheet 2" x 0.750" x 12 ft \$ 18.47 Ft 2-3 weeks ✓

7075t6 sheet 4.5" x 5" x 8 ft cut in section 4 ft 50.125" Long \$ 182.19 Ft 2-3 weeks ✓

7075t6 sheet 1" x 2.5" x 12 ft \$ 30.42 Ft 2-3 weeks ✓

7075t6 sheet 1.250" x 2" x 12 ft \$ 20.12 Ft 2-3 weeks ✓

7075t6 sheet 0.375" x 5" x 12 ft \$ 18.10 Ft 2-3 weeks ✓

~~303 bar 1" x 3" x 12 ft \$ 107.48 FT 2 weeks~~

~~304 bar 0.750" x 2.5" x 12 ft \$ 24.62 FT 8-9 days~~

~~304 bar 0.500" x 2.5" x 12 ft \$ 19.93 FT 8-9 days~~

~~Round bar bronze 2.375" x 1 ft (63000 spec's) Regret~~

D4970-041,

Thanks

Marc Desbiens  
Inside sales representative  
Castle Metals, Montreal, QC  
Direct line 514-795-8176  
1-800-806-6660 ext 52226  
Fax # 1-855-892-6370

*Customized Supply Chain Solutions for Your Metal Needs*



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7075+654.500x5.000  
DATE: FEB 13 2018

PO BATCH NO: 038729/504022

MATERIAL CERT REQD: yes  
QUANTITY RECEIVED: 9"  
QUANTITY INSPECTED: 9"  
QUANTITY REJECTED: 0

THICKNESS ORDERED: 4.500  
THICKNESS RECEIVED: 4.500  
SHEET SIZE ORDERED: N/A  
SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	N	
CORROSION	Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	<u>Amis QD-A-250</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	N	<u>Heat # 23487280</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.  
RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR C	WEAR
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if req)</b>	
INSPECTED BY: <u>11</u>	SIGNED OFF BY: _____		
DATE: <u>9-89</u> <u>FEB 13 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in.



# SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL: 7075-T6/T62/T651 ALUMINUM SHEET OR PLATE

SPECIFICATION: QQ-A-250/12 OR AMS-QQ-A-250/12  
OR AMS 4045  
OR ASTM B209

OR

△ PURCHASE MATERIAL: 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE

SPECIFICATION: QQ-A-250/13 OR AMS-QQ-A-250/13  
OR AMS 4048 / 4049  
OR ASTM B209

△ PART NUMBER: M7075T6S | TTT | X | W.WWW |  
| THK | | WIDTH |

△ WHERE "TTT" = THICKNESS (IN INCHES)  
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

EG. 0.063" THICK SHEET = M7075T6S.063

EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

△ PREFERRED SIZE: .TTT BY 4FT BY 10FT FOR SHEET

RELEASED

2017 JUN 19  
ECN 17-574

APPROVED

B	ADD: REF TO "PLATE", "T651" TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CAR16-149)	CP	17.05.05
A	NEW ISSUE	RF	10.11.08
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	CP		
CHECKED	ML		
MFG. APPR.	LL		
APPROVED	WM		
DE APPR.	DS		
DATE	17.05.05		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M7075T6S			
REV. B SHEET 1 OF 1			
TITLE 7075-T6 SHEET/PLATE SPEC			
SCALE NTS			
COPYRIGHT © 2010 DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. NO PART OF THIS DOCUMENT IS TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD			

SHIP TO:  
HADCO METAL TRADING CO. LLC  
SHIP TO STOCK  
555 STATE ROAD  
BENSALEM, PA 19020

SOLD TO:  
HADCO METAL TRADING CO. LLC  
555 STATE ROAD  
BENSALEM, PA 19020

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number  
4478405



CUSTOMER PO NUMBER: 098007-6	WORK PACKAGE:	CUSTOMER PART NUMBER:	SHIP RUN/LOAD: 104004, 1G	GOVT CONTRACT NUMBER:
KAISER ORDER NO. 1242581-6	SHIP DATE: 18-SEP-2017	ALLOY: 7075	CLAD: BARE	TEMPER: T651
WEIGHT SHIPPED 6446 LB	QUANTITY 2 PCS EST.	TRUCK B/L #: 2069047	GUAGE 4.5000 IN (114.3000 MM)	PRODUCT DESCRIPTION: Kaiser Select Plate DIAMETER/WIDTH: 48.500 IN (1231.0 MM)

MHU 2151058 LOT 234872B0: 1 pieces:  
MHU 2151059 LOT 234872B0: 1 pieces:

### Certified Specifications

AMS 4045/Rev L

AMS-30-A-250 12/Rev A

ASTM B 209/Rev 14

Test Code: 1512  
Lot: 234872B0

Cast 529

Drop 04

Test Results  
Ingot 5

Melted in USA

(ASTM B9/B557)  
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPa)	Yield KSI (MPa)	Elongation %
	T651	LT = 2 (Min/Max)	69.3 : 70.0 (478 : 483)	54.7 : 55.7 (377 : 384)	10.5 : 10.8

(ASTM E1251)

Chemistry	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.09	0.18	1.5	0.04	2.5	0.19	5.7	0.03	0.01	0.01	TOT 0.04

### ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder



Serial Number  
4478405

[illegible]

**JAMES HEMENWAY, TECHNICAL PROCESS MANAGER**

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-H1150-R4.000

PO BATCH NO: 038929/5042021

DATE: FEB 13 2018

MATERIAL CERT REQD: yes  
 QUANTITY RECEIVED: 6"  
 QUANTITY INSPECTED: 6"  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 4.000  
 THICKNESS RECEIVED: 4.000  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	AMS 5643
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	Heat # 267800
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK  
 RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR B	WEL
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if req)</b>	
INSPECTED BY: <u>DAS</u> <u>11</u> DATE: <u>9-89 FEB 13 2018</u>	SIGNED OFF BY: _____ DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE, ON COPIED, OR COMMUNICATED TO ANY OTHER PERSON WITHOUT

**VALBRUNA**SLATER STAINLESS, INC.  
2400 TAYLOR STREET WEST - PO BOX 630  
PORT WAYNE IN 46002 USA  
PHONE 260 414 2820 - FAX 260 414 2821**Product Certification Report**Report Number: **5436080**

Certified on Jan 08, 2018 Page 1 of 2

Order ID.	Order Date	Commodity Code			
1701428-001	6/27/17	39902			
Qty 1	Qty 2	Qty 3	Mat. ID.	Customer ID.	Customer Purchase Order
4.0000	.0000	.0000	267900	001117	430603
Product Shape	Product Surface			Customer Order	
Rounds	Centerless Ground/Cold Finish			17-4	
Length (Inches)	Bolt or Lading #		Weight		
132.000 Min. 156.000 Max.	431460				

**Ship To**  
**CASTLE METALS**  
 26800 MILES ROAD  
 BEDFORD HEIGHTS, OH 44146

**Sold To**  
**VALBRUNA STAINLESS, INC.**  
 2400 TAYLOR STREET WEST  
 PORT WAYNE, IN 46802

Lifts: 0064

AISI 630

UNS S17400

ASMESA 564-13

Condition H-1150

AMS 2303F

ASTMA 564-13 Type 630

3174-04 REV 41

AMS 5643U

**CHEMICAL ANALYSIS**

C	Mn	P	S	Si	Cr	Ni	Mo	Cu	N	Cb	Ta
.038	.48	.023	.021	.44	15.73	4.40	.21	3.22	.031	.282	.0026
Cb+Ta											
.2846											

**BRINELL Type A device E10-15a**

HPW

512

**ROOM TEMP TENSILE ASTM E8-16a**

TS (PSI)	.2%YS (PSI)	%EL (4d)	%RA
141400	111600	20.4	58.4

**CHARPY V NOTCH E23-16b 10x10mm**

TEMP	FT/LB	FT/LB	FT/LB	LAT EX	LAT EX	LAT EX	%SHR	%SHR	%SHR	AVG FT LB
70	90	92	86	61	55	56	70	70	70	89
AVG LAT EX		AVG % SHEAR								
57		70								

**MAGNETIC PARTICLE to AMS2303F**

FREQ SZV

AVG .00 .00

**MACRO ASTM E340-15/E381-01(12)**

MACRO

OK

OK

OK

**PERCENT FERRITE (AMS 2315G)**

% FERRITE Etchant Magnification X

AVG .4 Marbles 100

Solution heat treated at 1900 degrees F plus or minus 25 degrees. one hour minimum and air cooled.

Heat treated at 1150 degrees F for 4 hours and air cooled.

Reduction ratio 5 To 1 Min.

Results relate only to the items tested. Certification shall not be reproduced except in full, without written approval of Valbruna Stainless Inc. The recording of false, fictitious, or fraudulent statements on this document may be punished as a felony under federal statutes. Including Federal law Title 18, Chapter 47. Consult material safety data sheet (MSDS) for hazard info.

I hereby certify that the reported figures are correct as contained in the records of the corporation.

Manager Laboratory Services

*Tad Landwehr*

email TLandwehr@valbruna.us

Tad Landwehr



**VALBRUNA**SLATER STAINLESS, INC.  
2400 TAYLOR STREET WEST - PO BOX 630  
FORT WAYNE IN 46802 USA  
PHONE 260-434-2800 • FAX 260-434-2801**Product Certification Report**Report Number: **5436080**

Certified on Jan 08, 2018 Page 2 of 2

Order I.D.	Order Date	Commodity Code			
1701428 001	6/27/17	39902			
Dim 1	Dim 2	Dim 3	Heat I.D.	Customer I.D.	Customer Purchase Order
4.0000	.0000	.0000	267900	001117	430603
Product Shape	Product Surface				Customer Grade
Rounds	Centerless Ground/Cold Finish				17-4
Length (Inches)	EEO of Length #		Weight		
132.000 Min.	156.000 Max.		431460		

CASTLE METALS  
26800 MILES ROAD  
*Ship To* BEDFORD HEIGHTS, OH 44146

VALBRUNA STAINLESS, INC.  
2400 TAYLOR STREET WEST  
*Sold To* FORT WAYNE, IN 46802

Electric Furnace melted; AOD refined.

Chemical testing to one or more of the listed ASTM methods:

E1019-11, E1086-14.

Location of tensile fracture: inside middle of gage length. %elong after fracture.

Chemical Analysis performed at Acciaierie Valbruna, Italy.

No mercury or low melting alloy contamination. No weld repair.

Material melted in Italy. manufactured in the United States.

Material conforms to listed specifications. DFARS compliant. Our heat treat furnaces use air atmosphere.

Quality system is compliant with ISO 9001:2015. Produced in accordance with EN 10204 3.1.

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